



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,816	03/18/2004	Masahiko Ogino	1021.43672X00	5867

20457 7590 10/17/2007
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

DANIELS, MATTHEW J

ART UNIT	PAPER NUMBER
----------	--------------

1791

MAIL DATE	DELIVERY MODE
-----------	---------------

10/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/802,816	Applicant(s) OGINO ET AL.	
	Examiner Matthew J. Daniels	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. The election of Claims 1-11 was confirmed in the reply received 25 June 2007.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Rejections set forth previously are withdrawn in view of the amended claims.
3. **Claims 2, 3, 6, 8** are rejected under 35 U.S.C. 102(b) as being anticipated by Barrett (USPN 1273131). **As to Claim 2**, Barrett teaches a stamp mold which could be used as a nanoprint mold for deforming a resin substrate or a resin film on a substrate to form a fine structure on a substrate with the use of a press machine, said mold comprising a laminated structure (Fig. 2), said laminated structure including a base member having a curved surface (Fig. 2, item 5) and a pattern member having a concave-convex pattern (impression sheet or printing sheet, page 2, left col., lines 5-8), said mold being provided with a curved surface on the side thereof on which a the concave-convex pattern is formed (Fig. 2). Although Barrett does not explicitly teach a “nanoprint” mold, in a first interpretation, there is no particular size feature implicit in this limitation, and thus the mold would be anticipated by Barrett. In a second, interpretation under 35 USC 103(a), it would have been obvious to vary the size of the features,

Art Unit: 1791

and therefore to provide a “nanoprint” mold. **As to Claim 3**, Barrett provides a laminated structure wherein a portion of the periphery is inclined such that a center portion of the laminated structure has a larger thickness than an edge portion (Fig. 2). **As to Claim 6**, the mold of Barrett is inherently capable of use with a press machine comprising a heating and pressing mechanism. This limitation is interpreted to be drawn to the intended use. **As to Claim 8**, Barrett’s mold is flexible (page 1, left col., line 17).

4. **Claims 2, 3, 5-7** are rejected under 35 U.S.C. 102(b) as being anticipated by Kamihara (USPN 5843321). **As to Claim 2**, Kamihara teaches a stamp mold which could be used as a nanoprint mold for deforming a resin substrate or a resin film on a substrate to form a fine structure on a substrate with the use of a press machine, said mold comprising a laminated structure (Fig. 4A, Fig. 4B), said laminated structure including a base member having a curved surface (item 21) and a pattern member having a concave-convex pattern (Fig. 4B, item 22), said mold being provided with a curved surface on the side thereof on which a-the concave-convex pattern is formed (Fig. 4B). Although Kamihara does not explicitly teach a “nanoprint” mold, in a first interpretation, there is no particular size feature implicit in this limitation, and thus the mold would be anticipated by Kamihara. In a second, interpretation under 35 USC 103(a), it would have been obvious to vary the size of the features machined into the surface (Item 23), and therefore to provide a “nanoprint” mold in order to use the material as a diffraction grating. **As to Claim 3**, Kamihara provides a laminated structure wherein a portion of the periphery is inclined such that a center portion of the laminated structure has a larger thickness than an edge portion (Fig. 2). **As to Claim 5**, Kamihara provides a deep groove at the center (Fig. 4B, item 23

cuts a groove). **As to Claim 6**, the mold of Kamihara is inherently capable of use with a press machine comprising a heating and pressing mechanism. **As to Claim 7**, Kamihara provides a light-transmitting mold (3:42-56, Cols. 9-10).

5. **Claims 2, 6, 8-10** are rejected under 35 U.S.C. 102(b) as being anticipated by Howell (USPN 1236304). **As to Claim 2**, Howell teaches a mold that could be used as a nanoprint mold for deforming a resin substrate or a resin film on a substrate to form a fine structure on a substrate with the use of a press machine. The mold of Howell comprises a laminate structure (Fig 3, items 4 and 10), the laminated structure including a base member having a curved surface (Fig. 3, item 4) and a pattern member having a concave-convex pattern (item 10), the mold being provided with a curved surface on the side thereof on which the concave-convex pattern is formed (Fig. 3). In the alternative that the mold is not inherently a nanoprint mold, it would have been obvious to vary the size of the features to produce various aesthetic effects using the stamp, and in doing so it would have been obvious to provide nanometer size features. **As to Claim 6**, the mold of Howell could be used with a machine which comprises a heating and pressing mechanism. **As to Claims 8-10**, the Howell mold is flexible (Fig. 1), and it is submitted that the mold is secured to a circular supporter (Figs. 2, 5, 6) via rubber (page 1, right col., lines 60-85), which is interpreted to be an elastomer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1791

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamihara (USPN 5843321) in view of Ruchhoeft (J. Vac. Sci. Technol. B; Vol. 17, No. 6, 1999, pages 2965-2969). Kamihara teaches the subject matter of Claim 2 above under 35 USC 102(b). **As to Claim 4**, Kamihara does not explicitly teach a concave-convex pattern formed on a mold that has a center portion with a smaller thickness than the edge. However, the mold of Ruchhoeft is provided with a portion of a periphery on the side where the pattern is formed is inclined such that a center portion of the substrate has a small thickness (page 2966, Fig. 1(c) and Fig. 1(d)). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Ruchhoeft into that of Kamihara (a) because concave lenses, such as those of Ruchhoeft, are also known to be an obvious alternative to convex lenses, such as those of Kamihara, in order to provide a different magnifying effect, and (b) in order to form concave molds (Ruchhoeft) at reduced the cost (Kamihara).

7. **Claims 2 and 8-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowe (USPN 2201302) in view of Everhart (USPN 6048623). **As to Claim 2**, Rowe teaches a mold (item 11, Fig. 4) for forming a fine structure on a substrate with the use of a press machine (Fig. 1). The mold of Rowe comprises a laminate structure (Fig. 4, 6), the laminated structure including a base member having a curved surface (Fig. 4, 6, item 19) and a pattern member having a concave-convex pattern (item 11), the mold being provided with a curved surface on the side thereof on which the concave-convex pattern is formed (Fig. 6). Rowe is silent to the mold

Art Unit: 1791

being a "nanoprint" mold. However, Everhart teaches a flexible mold which produces nanometer scale features, and is thus a nanoimprint mold (4:55-60). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the mold of Everhart into that of Rowe in order to (1) provide for the controlled placement of materials and formation of very small features which are useful in chemistry and biology and (2) to produce controlled placement of fluids having a chemically reactive, indicator functionality (2:22-25). As to Claims 8-11, Rowe teaches a mold wherein the mold is flexible (page 1, right column, line 19), it is secured to a supporter via an elastomer (page 1, right column, lines 40-41), the supporter is circular (Fig. 3), and wherein the mold is provided with an elastomer at an edge of the side of the mold on which the concave-convex pattern is formed, the elastomer facilitating the release of the mold from the substrate (flange 14 in Fig. 4, also page 1, right column, lines 46-47).

Response to Arguments

8. Applicant's arguments filed 25 June 2007 have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

a) The references do not teach a laminated structure and curved base member, as claimed in the amended claims.

9. These arguments are not persuasive for the following reasons:

a) New claim rejections are set forth above. The claimed invention reads on a wide range of printing plates, stamps, and textured laminates, as described above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJD 10/12/07

MJD


CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER